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Siman-Tov et al.

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(54) **PERSONAL COOLING APPARATUS AND METHOD**

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(58) **Field of Search** 2/2.5; 428/103, 428/196; 89/36.05

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(57) **ABSTRACT**

A portable lightweight cooling apparatus for cooling a human body is disclosed, having a channeled sheet which absorbs sweat and/or evaporative liquid, a layer of highly conductive fibers adjacent the channeled sheet; and, an air-moving device for moving air through the channeled sheet, wherein the layer of fibers redistributes heat uniformly across the object being cooled, while the air moving within the channeled sheet evaporates sweat and/or other evaporative liquid, absorbs evaporated moisture and the uniformly distributed heat generated by the human body, and discharges them into the environment. Also disclosed is a method for removing heat generated by the human body, comprising the steps of providing a garment to be placed in thermal communication with the body; placing a layer of highly conductive fibers within the garment adjacent the body for uniformly distributing the heat generated by the body; attaching an air-moving device in communication with the garment for forcing air into the garment; removably positioning an exchangeable heat sink in communication with the air-moving device for cooling the air prior to the air entering the garment; and, equipping the garment with a channeled sheet in communication with the air-moving device so that air can be directed into the channeled sheet and adjacent the layer of fibers to expell heat and moisture from the body by the air being directed out of the channeled sheet and into the environment. The cooling system may be configured to operate in both sealed and unsealed garments.

2 Claims, 3 Drawing Sheets